

*file*  
*1887*  
*564*

*145*

A.D. 1886. APRIL 28. N° 5772.

FAULKNER & ADLAM'S COMPLETE SPECIFICATION.

*Brit.*

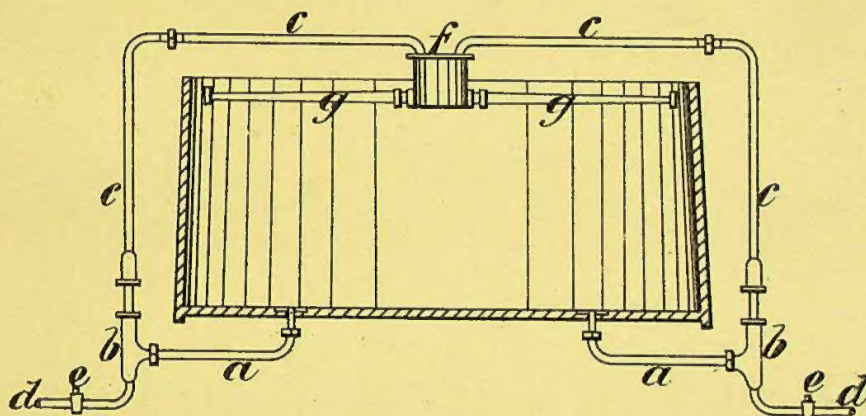
*5772*

*1886*

(1 SHEET)

*1887*

*Washing*



*blast of hot air  
at bottom*

[This Drawing is a reproduction of the Original on a reduced scale]



426-16

GES

HOL.

mg-

paratus-

Mash-tubs.

521887

33

A-99

RECORDED

Date of Application, 28th Apr., 1886.  
Complete Left, 27th Jan., 1887.  
Complete Accepted, 1st Mar., 1887.

A.D. 1886, 28th APRIL. N° 5772.

### PROVISIONAL SPECIFICATION.

#### Improvements in Treating Brewers' Wort.

We, FRANK FAULKNER of Crosswell's Brewery, Oldbury, in the county of Worcester, Brewer, and WILLIAM ADLAM of Ellbroad Street, in the city and county of Bristol, Engineer, do hereby declare the nature of this invention to be as follows:—

5 This invention consists in the introduction into what is termed the "goods" contained in brewers' mash tuns, of a current or blast of heated air whereby the wort therein is made to circulate and the oxidation of the more readily alterable nitrogenous compounds or bodies promoted.

10 The wort is impelled in the circulating pipes of the mash tun by a current of hot air forced by a pump or other suitable appliance into the said pipes, and after passing into the sparge dish, the wort flows on to the surface of the "goods" in the tun.

15 The temperature to which the air so employed is raised is regulated so as to provide for rapid oxidation of the deleterious nitrogenous compounds or bodies, without injuriously affecting the active diastatic bodies of the malt extract.

W. LLOYD WISE,  
46, Lincoln's Inn Fields, London, W.C.,  
Agent for the Applicants.



*Faulkner & Adlam's Improvements in Treating Brewers' Wort.*

## COMPLETE SPECIFICATION.

## Improvements in Treating Brewers' Wort.

We, FRANK FAULKNER, of Crosswells Brewery, Oldbury, in the county of Worcester, brewer, and WILLIAM ADLAM, of Ellbroad Street, in the city and county of Bristol, engineer, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The improved method of treating brewers' wort to which this invention relates consists in introducing to the "goods" contained in the mash tun of a current or blast of heated air.

In those cases where it is desired that the wort shall circulate in addition to being aerated by the current of heated air, the wort is impelled in the circulating pipes connected with the mash tun by the action of the current of air forced, by a pump or other suitable appliance, into the said pipes. From the said pipes the circulating wort is delivered to the sparge-dish whence it flows into and is diffused among the "goods."

In those cases where aëration only of the wort is desired, the air is delivered into the mash tun at or towards the bottom thereof either through the underlet or drain pipes or, which is preferable, through pipes connected directly at various points to the bottom of the vessel and, in this case, distributing pipes for further diffusion of the air are fitted inside the mash tun under the plates of the false bottom thereof and are readily removable for cleaning.

The air employed in either of the foregoing circumstances is of a temperature regulated so as to provide for rapid oxidation of the deleterious nitrogenous compounds or bodies without injuriously affecting the active diastasic bodies of the malt extract.

Referring to the accompanying drawing, the figure shown represents a vertical section of a mash tun having fitted thereto a pumping or forcing appliance and attendant pipes for circulating and aerating the wort.

The wort as it comes from the drain pipes *a* is impelled upwards by a current of heated air induced by the injectors *b* fitted in the pipes *c* and communicating with a receiver or reservoir of hot air by the pipes *d* each fitted with a cock or tap *e*. By the pipes *c* the wort is conducted to the sparge dish *f* whence it is delivered to the "goods" contained in the tun by the perforated distributing pipes *g*.

Instead of the injectors shewn in the drawing, any equivalent appliance may be employed to maintain a current of heated air and so to keep the wort in circulation.

Where aëration alone of the wort is desired the air is not forced into the pipes by which the wort is conducted to the sparge dish but is delivered into the mash tun at or towards the bottom thereof either through the underlet or drain pipes or, which is preferable, through pipes connected at various points to the bottom of the vessel, and, in this case, distributing pipes for further diffusion of the air are fitted inside



*Faulkner & Adlam's Improvements in Treating Brewers' Wort.*

the mash tun under the plates of the false bottom thereof and are readily removable for cleaning.

The air employed in either of the foregoing cases is of a temperature regulated so as to provide for rapid oxidation of the deleterious nitrogenous compounds or bodies without injuriously affecting the active diastasic bodies of the malt extract.

Having now particularly described and ascertained the nature of this invention, and in what manner the same is to be performed, we declare that what we claim is :—

1. In the process of brewing ale, porter and other like liquors, the introduction, by means of an injector, pump, or equivalent appliance, into the wort as it comes from the mash tun and is on its way to the "sparging" apparatus, of a current or blast of heated air whereby the circulation of the wort is assisted and the oxidation of the more readily alterable deleterious nitrogenous compounds or bodies in the wort promoted, the temperature of such current or blast of air being regulated to obtain the desired object without injuriously affecting the active diastasic bodies of the malt extract.

2. Apparatus for promoting the circulation and aëration of mash tun wort consisting of drain pipes such as *a*, forcing appliance such as *b*, or the equivalent thereof, pipes such as *c* for conducting the wort to the sparging apparatus, constructed and arranged substantially as hereinbefore described and shewn in the accompanying drawing.

3. In the process of brewing ale, porter and other like liquors the introduction at or towards the bottom of a mash tun of a current or blast of heated air whereby the oxidation of the more readily alterable deleterious nitrogenous bodies is promoted without injuriously affecting the active diastasic bodies of the malt extract, substantially as hereinbefore described.

W. LLOYD WISE,  
46, Lincoln's Inn Fields, London, W.C.,  
Agent for the Applicants.

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